

Exhibit

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Joint Claim Construction Chart – U.S. Patent 5,528,222¹

| Claim Text (U.S. Patent 5,528,222) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|---|--|--|---|
| 1. A thin flexible electronic radio frequency tag circuit comprising; | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| an insulating, flexible substrate; | ordinary meaning | | ordinary meaning | |
| an antenna that is an integral part of the substrate and that has terminals; | The phrase "integral part of the substrate" includes but is not limited to "etched onto or plated on the substrate." remaining terms – ordinary meaning | Col. 4, lns. 6-8 | The phrase "integral part of the substrate" includes but is not limited to "etched onto or plated on the substrate." remaining terms – ordinary meaning | Col. 4, lns. 6-8 |
| a circuit chip having a modulator circuit, a logic circuit, a memory circuit, and chip connectors and being on the substrate in <u>adjacent proximity</u> to the antenna; | The phrase "adjacent proximity" means "close (i.e., not stacked)", where "stacked" refers to the stacking of electrical planes as opposed to physical stacking. remaining terms – ordinary meaning | Col. 4, lns. 18-27; Fig. 2. | "adjacent proximity" means "close with no stacking" remaining terms – ordinary meaning | Col. 4, lns. 22-26; Col. 3, lns. 19-20 File History ("FH"): Application filed 9/9/94 at p. 10. |

¹ Shaded rows indicate that the parties are in agreement as to the claim construction for that particular claim limitation.

| Claim Text (U.S. Patent 5,528,222) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|--|---|---|---|
| one or more <u>connecting lines</u> between the antenna terminals and the chip connectors, the connecting lines being <u>coplanar</u> with the antenna and antenna terminals. | <p>The phrase "connecting lines" should be given its ordinary and accustomed meaning to mean "any substance that connects two or more electrical components."</p> <p>The term "coplanar" should be construed to mean "no vias, crossovers, etc. single plane of wiring." "Coplanar," therefore, refers to components being in the same electrical plane while not necessarily in the same physical or geometric plane.</p> <p>remaining terms – ordinary meaning</p> | <p>Figs. 7A-E; Col. 6, lns. 1-38.</p> <p>Col. 2, lns. 48-50; Col. 3, lns. 15-18; Col. 4, lns. 19-21; Fig. 2</p> | <p>"connecting lines" means "electrical conductor excluding the bonding types of thermal compression, single point bonding, C4 bonding, and conductive adhesive"</p> <p>"coplanar" means "a single plane of wiring"</p> <p>remaining terms – ordinary meaning</p> | <p>Col. 7, lns. 57-60; Col. 8, lns. 29-38.</p> <p>FH: Application filed 9/9/94 at p. 10; Col. 4, lns. 20-22; Col. 5, lns. 41-42</p> |

Joint Claim Construction Chart – U.S. Patent 5,912,632

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|--|--|--|--|
| 1. A passive radio frequency (RF) transponder (tag) for receiving an RF signal from a base station, comprising; | The preamble is not a claim limitation | | The preamble is not a claim limitation | |
| a tag antenna for receiving the RF signal from [sic] the base station the RF signal having a carrier frequency; | ordinary meaning, where there is no distinction between “base station” and an RFID reader. | | ordinary meaning, where there is no distinction between “base station” and an RFID reader. | |
| a tag rectification power supply connected to the tag antenna; | ordinary meaning | | ordinary meaning | |
| a tag logic section and a tag memory section the tag logic section and the tag memory section receiving power only from the tag antenna through the tag rectification power supply; | ordinary meaning | | ordinary meaning | |
| a receiver section connected to the tag antenna; and | ordinary meaning | | ordinary meaning | |
| a tag oscillator connected to the receiver section, | ordinary meaning | | ordinary meaning | |

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|--|---|--|--|---|
| the tag oscillator having a plurality of possible discrete frequencies of oscillation, | ordinary meaning | | ordinary meaning | |
| the tag oscillator having a tag oscillation frequency much less than the carrier frequency, | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | |
| the tag oscillator frequency used to determine a tag modulation frequency of an RF signal <u>backscattered</u> from the tag antenna, | The term "backscatter" means "the reflection of incoming RF energy centered about the carrier frequency." remaining terms – ordinary meaning | | "backscatter" means "the rebroadcasting or reflection of incoming RF energy at the carrier frequency." remaining terms – ordinary meaning | Col. 1, lns. 46-51 |
| <u>the tag oscillation frequency determined by the RF signal sent from the base station.</u> | This claim limitation should be construed to mean that the "tag oscillation frequency" is "determined by" the modulation frequency of "the RF signal sent from the base station" as opposed to the carrier frequency of "the RF signal sent from the base station." | Col. 1, lns. 12-14; Col. 5, lns. 2-4; Fig. 8; Col. 8, lns. 21-24. | ordinary meaning | |

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|--|--|---|---|
| 13. A method of setting a tag oscillation frequency of a tag oscillator of a passive RF tag comprising; | The method is limited to a passive tag. | | The method is limited to a passive tag. | |
| a) receiving an RF signal from a base station, and; | ordinary meaning, where there is no distinction between "base station" and an RFID reader. | | ordinary meaning, where there is no distinction between "base station" and an RFID reader. | |
| b) <u>adjusting the tag oscillation frequency in response to the RF signal from the base station,</u> | This claim limitation should be construed to mean "adjusting the tag oscillation frequency in response to" the modulation frequency of "the RF signal from the base station" as opposed to the carrier frequency of "the RF signal from the base station." | Col. 1, lns. 12-14; Col. 5, lns. 2-4; Fig. 8; Col. 8, lns. 21-24. | ordinary meaning | |
| wherein the tag oscillation frequency is much less than a carrier frequency of the RF signal, | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | |

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|--|---|--|--|--|
| and wherein the tag oscillation frequency is used to determine a tag modulation frequency of an RF signal <u>backscattered</u> from the tag. | The term "backscatter" means "the reflection of incoming RF energy centered about the carrier frequency." remaining terms – ordinary meaning | | "backscatter" means "the rebroadcasting or reflection of incoming RF energy at the carrier frequency." remaining terms – ordinary meaning | Col. 1, lns. 46-51 |
| 22. A system for sending and receiving modulated RF signals, comprising; | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| a base station for sending modulated RF signals, the RF signals having a carrier frequency; and | ordinary meaning, where there is no distinction between "base station" and an RFID reader. | | ordinary meaning, where there is no distinction between "base station" and an RFID reader. | |
| at least one passive RF tag for receiving the RF signals, the RF tag comprising | ordinary meaning | | ordinary meaning | |
| a tag antenna for receiving the RF signal from the base station, | ordinary meaning | | ordinary meaning | |
| a tag receiver section connected to the tag antenna; and | ordinary meaning | | ordinary meaning | |
| a tag oscillator connected to the tag receiver section, | ordinary meaning | | ordinary meaning | |

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|---|--|--|---|
| the tag oscillator having a tag oscillation frequency much less than the carrier frequency, | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | |
| the tag oscillation frequency used to determine the a modulation frequency of an RF signal <u>backscattered</u> from the tag antenna, | The term "backscatter" means "the reflection of incoming RF energy centered about the carrier frequency." remaining terms – ordinary meaning | | "backscatter" means "the rebroadcasting or reflection of incoming RF energy at the carrier frequency." remaining terms – ordinary meaning | Col. 1, Ins. 46-51 |
| <u>the tag oscillator frequency determined by the RF signals sent by the base station.</u> | This claim limitation should be construed to mean that the "tag oscillation frequency" is "determined by" the modulation frequency of "the RF signals sent by the base station" as opposed to the carrier frequency of "the RF signals sent by the base station." | Col. 1, Ins. 12-14; Col. 5, Ins. 2-4; Fig. 8; Col. 8, Ins. 21-24. | ordinary meaning | |

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|--|---|--|---|--|
| 28. A passive radio frequency (RF) transponder (tag) for receiving an RF signal from a base station, comprising; | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| a tag antenna for receiving the RF signal from the base station, the RF signal having a carrier frequency; | ordinary meaning | | ordinary meaning | |
| a receiver section connected to the tag antenna; | ordinary meaning | | ordinary meaning | |
| a tag rectification power supply connected to the tag antenna; | ordinary meaning | | ordinary meaning | |
| a tag logic section and a tag memory section, the tag logic section and the tag memory section receiving power only from the tag antenna through the tag rectification power supply; and | ordinary meaning | | ordinary meaning | |
| a tag oscillator connected to the receiver section, | ordinary meaning | | ordinary meaning | |

| Claim Text (U.S. Patent 5,912,632) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|--|--|--|--|
| the tag oscillator having a tag oscillation frequency much less than the carrier frequency, | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | | The phrase "much less than" means "less than one-fifth as much" remaining terms – ordinary meaning | |
| the tag oscillation frequency used to determine a tag modulation frequency of an RF signal <u>backscattered</u> from the tag antenna, | The term "backscatter" means "the reflection of incoming RF energy centered about the carrier frequency." remaining terms – ordinary meaning | | "backscatter" means "the rebroadcasting or reflection of incoming RF energy at the carrier frequency." remaining terms – ordinary meaning | Col. 1, Ins. 46-51 |
| <u>the tag oscillation frequency determined by the RF signal sent from the base station.</u> | This claim element should be construed to mean that the "tag oscillation frequency" is "determined by" the modulation frequency of "the RF signal sent from the base station" as opposed to the carrier frequency of "the RF signal sent from the base station." | Col. 1, Ins. 12-14; Col. 5, Ins. 2-4; Fig. 8; Col. 8, Ins. 21-24. | ordinary meaning | |

Joint Claim Construction Chart – U.S. Patent 5,995,019

| Claim Text (U.S. Patent 5,995,019) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|--|--|---|--|--|
| 1. A method for communicating between a base station and a set of radio frequency RF transponders (Tags) comprising: | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| <u>defining a plurality of RF tags into different groups according to a physical wave characteristic of the electromagnetic wave energy received from the RF tags, and</u> | The terms of this claim element should be given their ordinary and accustomed meaning where "physical wave characteristic" includes any physical attribute of the "electromagnetic wave energy received from the RF tags," including but not limited to signal strength, polarization, phase, carrier frequency and/or modulation frequency. | Col. 2, ln. 61- Col. 3, ln 27; Col. 6, lns. 60-64. | "defining a plurality of RF tags into different groups according to a physical wave characteristic of the electromagnetic wave energy received from the RF tags excluding grouping where the tags select themselves according to a signal from the base station" | FH: Response to Amendment received March 17, 1999 at p.5; Col. 2, lns. 46-58; Col. 7, lns. 53-61; Col. 12, lns. 3-11. |
| <u>communicating with the tags in each defined group.</u> | ordinary meaning | | "communicating with all of the tags in each group as grouped" | Col. 2, lns. 18-19; Col. 2, lns. 46-58; Col. 7, lns. 48-61; Col. 11, lns. 12-23. |
| 3. The method of claim 1 wherein at least one defining physical wave characteristic is the wave frequency. | ordinary meaning | | ordinary meaning | |

| Claim Text (U.S. Patent 5,995,019) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|--|--|---|---|---|
| 9. An RF tag base station comprising | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| a computer | ordinary meaning | | ordinary meaning | |
| a transmitter | ordinary meaning | | ordinary meaning | |
| a receiver, and | ordinary meaning | | ordinary meaning | |
| at least one antenna, | ordinary meaning | | ordinary meaning | |
| wherein the RF tag base station communicates with a plurality of RF tags by: | ordinary meaning, where there is no distinction between "base station" and an RFID reader. | | ordinary meaning where there is no distinction between "base station" and an RFID reader. | |
| interrogating the RF tags with electromagnetic energy, | ordinary meaning | | ordinary meaning | |
| <u>grouping the RF tags according to a physical characteristic of their responsive electromagnetic signals</u> , and | The terms of this claim element should be given their ordinary and accustomed meaning where "physical characteristic" includes any physical attribute of the "responsive electromagnetic signals," including but not limited to signal strength, polarization, phase, carrier frequency and/or modulation frequency. | Col. 2, ln. 61- Col. 3, ln 27. Col. 6, lns. 60-64. | "grouping the RF tags according to a physical characteristic of their responsive electromagnetic signals excluding grouping where the tags select themselves according to a signal from the base station" | FH: Response to Amendment received March 17, 1999 at p.5; Col. 2, lns. 46-58; Col. 7, lns. 53-61; Col. 12, lns. 3-11. |

| Claim Text (U.S. Patent 5,995,019) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|--|--|--|--|---|
| <u>reading the RF tags in each group.</u> | The terms of this claim element should be given their ordinary and accustomed meaning. | | “reading all of the tags in each group as grouped” | Col. 2, lns. 18-19; Col. 2, lns. 46-58; Col. 7, lns. 48-61; Col. 11, lns. 12-23. |
| 11. A base station as in claim 9 wherein RF tags are grouped according to the wave frequency of their respective return signals. | ordinary meaning | | ordinary meaning | |
| 16. A base station as in claim 9 wherein RF tags are grouped according to the frequency modulation of their respective return signals. | ordinary meaning | | ordinary meaning | |
| 18. An RF tag unit reading unit comprising: | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| a computer; | ordinary meaning | | ordinary meaning | |
| a transmitter; | ordinary meaning | | ordinary meaning | |
| a receiver; and | ordinary meaning | | ordinary meaning | |
| at least one antenna; | ordinary meaning | | ordinary meaning | |
| wherein the RF tag reading unit communicates with a plurality of RF tags by: | “tag reading unit” means “base station” | Col. 3, lns. 55-62. | “tag reading unit” means “base station” | Col. 3, lns. 55-62. |
| interrogating the RF tags with electromagnetic energy; | ordinary meaning | | ordinary meaning | |

| Claim Text (U.S. Patent 5,995,019) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|--|--|---|--|
| <u>grouping the RF tags according to a physical characteristic of their responsive electromagnetic signals, and</u> | The terms of this claim element should be given their ordinary and accustomed meaning where "physical characteristic" includes any physical attribute of the "responsive electromagnetic signals," including but not limited to signal strength, polarization, phase, carrier frequency and/or modulation frequency. | Col. 2, ln. 61- Col. 3, ln 27; Col. 6, lns. 60-64. | "grouping the RF tags according to a physical characteristic of their responsive electromagnetic signals excluding grouping where the tags select themselves according to a signal from the tag reading unit" | FH: Response to Amendment received March 17, 1999 at p.5; Col. 2, lns. 46-58; Col. 7, lns. 53-61; Col. 12, lns. 3-11. |
| <u>reading the RF tags in each group.</u> | ordinary meaning | | "reading all of the tags in each group as grouped" | Col. 2, lns. 18-19; Col. 2, lns. 46-58; Col. 7, lns. 48-61; Col. 11, lns. 12-23. |

Joint Claim Construction Chart – U.S. Patent 6,371,375

| Claim Text (U.S. Patent 6,371,375) | Intermec's Proposed Construction | Intrinsic Evidence for Intermec's Proposed Construction | Symbol's Proposed Construction | Intrinsic Evidence for Symbol's Proposed Construction |
|---|--|--|--|--|
| 1. A system for storing and retrieving data comprising: | The preamble is not a claim limitation. | | The preamble is not a claim limitation. | |
| a radio frequency tag having a memory for storing data; | ordinary meaning | | ordinary meaning | |
| a first identifier stored in the memory of the radio frequency tag; and | ordinary meaning | | ordinary meaning | |
| a machine readable symbol associated with the radio frequency tag, at least a portion of the machine readable symbol encoding a second identifier logically associable with the first identifier. | <p>“Associated” means “perceptually linked”</p> <p>“Logically associable” means that a “correspondence can be drawn between the identifiers, including but not limited to corresponding by matching or corresponding by mapping or corresponding by mathematical transformation”</p> <p>remaining terms – ordinary meaning</p> | <p>Col. 3, ln. 66 – Col. 4, ln. 6; Col. 5, lns. 13-20; FH: Response to Office Action dated Sep. 1, 2000, at p. 2.</p> <p>FH: Response to Office Action dated September 1, 2000, at p. 2; Col. 5, lns. 28-38.</p> | <p>“Associated” means “perceptually linked”</p> <p>“Logically associable” means that a “correspondence can be drawn between the identifiers, including but not limited to corresponding by matching or corresponding by mapping or corresponding by mathematical transformation”</p> <p>remaining terms – ordinary meaning</p> | <p>Col. 3, ln. 66 – Col. 4, ln. 6; Col. 5, lns. 13-20; FH: Response to Office Action dated Sep. 1, 2000, at p. 2.</p> <p>FH: Response to Office Action dated September 1, 2000, at p. 2; Col. 5, lns. 28-38.</p> |